The R L Drake Company. 45 Years Young (1988)

BILL FROST WD8DFP (ORIGINALLY PUBLISHED IN THE DRAKE COMPANY PUBLICATION).
SUBMITTED WITH THE AUTHOR'S PERMISSION BY JOHN WEIR VK3ZRV PO BOX 469 ELTHAM 3095

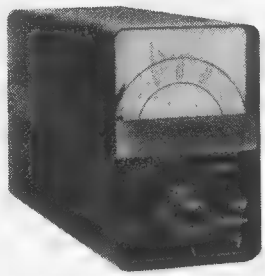
THE R L DRAKE Company was founded by Robert Lloyd Drake the eldest son of four children and also the father of four children. Born in Cincinnati, Ohio, he attended the University of Cincinnati after graduating from high school. At that time, the university was a city college and he lived at home while attending college.

Graduating in the early 30's, Mr Drake was first employed by Dayrad (Dayton Radio Co) in the Engineering department. He later went to work for Bendix Corp in their Aviation department. Mr Bill Lear, of Lear Jet fame, hired Mr Drake to work for his company, Learavia, in the Engineering department.

In 1943 Mr Drake decided to start his own company and leave his secure position at Learavia. He gathered three other people to help him design, and build his products. One of these individuals was Katherine "Katy" Quake, who is still a valued employee of the company. The company began at 11 Longworth Street in Dayton, Ohio. The upper level of the building was rented to a manufacturer of coat hangers.

The products at the time were low and high pass filters for amateur and military use. The filters for amateur use were a part of the company's product line for over forty years. A tank jamming device was also produced for the US military. The military also wanted a filter designed to eliminate the jamming, but this could not be done due to the method Mr Drake had designed. He had a difficult time convincing the government that it could not be done. The tank jamming equipment was successfully used in major events of WW2 such as Normandy Beach on June 6, 1944.

The recession that followed WW2 meant hard times for everyone, the R L Drake Co included. The company survived by continuing the production of filters and by doing small jobs for larger companies. This included making lamps for S S Kresge (of K-Mart fame) spring contacts for GE, coils and chokes for Delco, and communication cables for airplanes.



Courtesy R. L. Drake Co.

Drake Model 1-A receiver

Drake model 2-B receiver

Ten years later, in 1953, the company, now 10 or 12 employees, moved to Miamisburg in the once famous Baum Opera House, later to become the home of Star City Marine. If you stand in Market Square and catch the sun right you can still see Baum Opera House showing through the paint on the building.

The product line now included more accessories for amateur radio operators, such as Q-Multipliers for HRO and National receivers, product detectors for Collins Radio receivers, and the High Patch phone patch.

Being an amateur operator himself (W8CYE), Mr Drake had modified his own Hammarlund receiver for sideband reception. However he was not happy with the receiver's performance and knew he could design a "better mouse trap".

During a bad case of "hives", partially due to worry over the survival of the company and its employees, he began the design of the 1-A receiver at home. The receiver was long, thin and tall like a mailbox, but was destined to be the first receiver to be designed solely for single sideband reception. All other receivers for amateur use received only on AM or were old military AM receivers, which were then modified by the amateur for SSB reception.

Unsure that he could mass produce such a product, let alone finance it, he offered his design to well known receiver manufacturers such as National, Hammarlund, and Hallicrafters. After many letters back and forth and unable to reach a decision, the turning point came when "Gibby" of Universal Service in Columbus Ohio (a well known amateur radio supplier and friend of Mr Drake) said "You build'em and I'll take the first hundred". Hyde "Rube" Rubel of SREPCO, another Amateur Radio supplier, also supported the 1-A concept and urged production of the first single sideband receiver.

The first ten or so 1-A receivers were built at the old Baum Opera House, then in 1958 the company moved to the present 540 Richard Street address as more room was needed. The production of the 1-A was then put into full force. The 1-A design was based on a simple to operate concept, no bells, no whistles, easy to service, high quality, and high performance. Cosmetically, it was very plain, the front panel was black, the cabinet was black, and it was soon dubbed "The Black Box" among amateurs. Receivers prior to the 1-A were large, bulky, had large knobs, large meters, and were often called "Boat Anchors".

The 1-A receiver was a success, as it was well received by amateur radio operators. However, amateurs wanted a receiver that had both modes of reception, AM and SSB, built with the per-

formance of the 1-A. AM was still the most popular mode of communication among amateurs. Thus the 2-A receiver was designed and produced. It was soon followed by the design of 2-B receiver. Mr. Drake offered his 2-B design to radio receiver manufacturers such as Globe Radio and Hallicrafters, as he felt uneasy about increasing the size of the company. Unable to come to terms, it was decided in 1961, to proceed and build the 2-B under the R L Drake Co name.

In 1963, the company introduced its first transceiver and named it the TR-3. The TR-3 was a tube type unit, as were all Drake products at that time. It used a 9.0 MHz IF, tube type VFO (Variable Frequency Oscillator), and three 12JB6's as the final output tubes. The sensitivity was excellent and power output ran 300 watts PEP. The demand for the TR-3 was tremendous and its popularity grew as did the name Drake.

In 1965, the Inland Testing Laboratory (a division of Cook Electric, Chicago, Ill) was purchased by Mr Drake. The name was changed to Dayrad, a name familiar to Mr Drake as helping him get a start in his earlier years. Unfortunately, a few years later, the equipment was sold and the company dissolved, as there was not enough work to keep the employees busy. Some employees were transferred to the Miamisburg plant.

Then in 1966, a completely new line was designed and introduced, which became known around the world as the "Drake Twins". The receiver was the R-4 and the mating transmitter was the T4X. Also produced were accessories such as the W-4 wattmeter, the MN-4 matching network, the MS-4 speaker, and the AC-4 power supply. The R4-A soon replaced the R-4 receiver and the L-4 linear amplifier was introduced along with the MN-2000 matching network. The L-4 and the MN-2000 proved to be two of the most desired products by amateurs around the world. These two products are still sought after by amateurs today.

Shortly after the R4-A had reached the market, the company was approached by Radio New York Worldwide to build a low cost International Shortwave Broadcast Receiver for their own use. The SW-4 was designed primarily from the R4-A and was to receive AM only. The front panel stated "Designed especially for Radio New York Worldwide". Again, not wanting to expand beyond the company's means, the design was offered to RCA, who, at the time was a leader in communications type receivers. RCA was at the time producing the CRM-R6A receiver for the world communications market and declined the offer. The SW-4A short wave receiver soon followed the SW-4 with several improvements and with more solid state devices being used instead of tubes.

The C-4 station console was introduced in 1966 and was another first in amateur radio equipment. The unit was engineered and designed by Ronald E Wysong, who was later to succeed Peter W Drake as President and CEO of the R L Drake Co. The unit housed a phone patch, rotator control, wattmeter, equipment control switch, ID timer, 24 hour clock, remote antenna selector and it could also control power to other units in the "Ham Shack". Thus turning off the C-4 could turn all of the amateur's equipment off.

Also in the year 1966, Ron Wysong was interested in cameras and photography as a personal hobby. He learned that printed circuit boards involved photography and negatives. He persuaded the company to invest in the first steps towards a printed circuit department. He made an etching table out of plywood and 2X4's, mounted a motor to vibrate the table top, and was soon making progress. The first printed circuit board to be used in a product was the audio board of the R4-B receiver. This was the start of the PC Fabrication Department.

In the year 1967, the 2-C receiver and the 2NT CW transmitter were introduced which filled the need of a good low cost novice station for many beginning amateurs. The TR-4 transceiver replaced the TR-3 with several improvements, including a solid state VFO, and a BFO circuit.

The R4-B, T4XB and the L4B were improved versions of earlier products and were introduced in late 1967. The production rate was averaging four to six units per day of most products. More room was needed and an addition was made to the building to provide office space, an Engineering Department and a lunch room area. The Engineering Department was sharing space with the Machine Shop in a small building across the railroad tracks from the main plant, and so the additions gave the entire building to the Machine Shop.

The SPR-4 was introduced in 1970 as a replacement for the ever-popular SW-4A. The receiver was all solid state, could receive both SSB and AM and crystals could be added to extend the listening range to meet the needs of the owner. The two metre FM (frequency modulation) band was gaining in popularity and the ML-2 two metre FM transceiver was introduced. This was the first unit to be imported and sold bearing the R L Drake Co name. This led to the import of the TR22 portable transceiver and the TR22M transceiver. The TR22M was a marine FM transceiver which allowed the company to enter the marine communications market. The introduction of the TRM single sideband transceiver followed and its use ranged from small shrimp boats to the large oil tankers. The TR22C was imported to replace the TR22, which was later replaced by the TR33C. All three units required crystals for each channel, unlike the synthesized hand-held units of today.

The DSR-1 receiver was introduced in late 1971. It covered the complete HF spectrum and used 'nixie' tubes for the digital display. It also allowed reception of independent sideband as well as single sideband and AM. It was followed by the MSR-1, a 19 inch rack-mount commercial type receiver. The MSR-1 was used aboard ocean-going ships as the main receiver. The DSR-2, MSR-2, and the MSR-FMP succeeded the DSR-1 and MSR-1. These units contained gold plated switch contacts to minimize contact failure in the salty air.

The ever popular C-Line was introduced in 1973 to replace the B-Line Twins. The C-Line units made use of more solid state components, a dual dial VFO, a plug-in antenna change over relay in the T4XC, and crystal filters replaced the old reliable PBT (passband tuner) in the R4-C. The R4-C receiver and the T4XC transmitter are still sought after by many amateurs and held as prize possessions by others. Accessories included the TC-2 two metre transverter and the SC-2 receiving converter, the TC-6 six metre transverter and SC-6 receiving converter as well as the TR-6 six metre transceiver.

The SSR-1 receiver was imported and added to the shortwave receiver line as a low cost unit covering the complete spectrum from broadcast band to 30MHz. A whip antenna and a compartment for eight "D-Cell" dry batteries made it portable.

In 1975 amateur radio operators across the world were in deep mourning as word spread that R L Drake Sen had passed away. They had lost a very dear friend, a fellow amateur, and a pioneer of a amateur radio. The operation and management of the company was turned over to Peter W Drake, as Mr Drake had been training his son to assume his position for some time.

Drake amateur radio equipment can be found in every part of the globe. If the equipment is not there, the name Drake is known and respected. Amateur radio operators come in all walks of life and at one time or another have owned, wanted, or used a piece of radio gear made in Miamisburg, Ohio. King Hussein of Jordon has used Drake gear, as well as Barry Goldwater, Roy Neal and Ronnie Milsap.

The amateur radio station aboard the "Queen Mary" was once a complete line of Drake equipment. The R L Drake Co radio equipment has been used in hot air balloon flights trying to fly non-stop across the country or around the world. An around the world attempt on a sailing yacht used Drake gear, the details of which were outlined in an issue of the Smithsonian Magazine. The non-stop flight of the Voyager space craft was aided with Drake gear. Many far away and remote islands have been temporary home of DX-peditions using Drake gear to contact their fellow amateurs. A complete 7-line system was taken to China as international goodwill by a Californian University. Famous amateurs who were Drake users include James Stewart, Chet Atkins, Joe Walsh and astronauts Owen Garriot and Tony England. Marlon Brando, at one time, wanted to use Drake amateur radio equipment as a communications link on his island.

In the year 1977, land was purchased in Franklin Ohio, just off Route 123, to build a new production facility. The production facility was to be completed in three phases. The first phase of the building provided 42,500 square feet and was completed in 1978. The Machine shop, PC fabrication department, production lines, and component assembly lines were moved to this new facility. The office staff, Sales department, Engineering department, and the Service department remained at the Miamisburg plant.

Production now included the TR-7, a completely solid state transceiver and a companion receiver, the R-7. Complementary accessories included the L-7 linear amplifier, WH-7 wattmeter, and the MN-2700 matching network, to mention a few. The UV-3 was introduced in 1978, and was another first in amateur radio. It was a single unit housing a 146 MHz band, 220 MHz band and a 450 MHz band FM transceiver all in a compact, rugged package. It was designed for mobile or base station use. The MRT-55, designed from the UV-3, proved to be a viable product in the marine market, and led to the production of the MRT-55. The RR-3 was introduced in 1981 to replace the RR-2 which had replaced the RR-1 earlier. The RR-1 had gained popularity as being a very reliable, low cost secondary receiver aboard ocean going ships.

The TR-4310 transceiver and the R-4245 receiver were also introduced as primary units for ocean going ships. These were redesigned TR-7 and R-7 respectively with a VRTO (variable rate tuning oscillator), full transmit coverage, and with all crystal filters installed. They were also standard 19 inch rack mount units built for rugged duty. Radio Monaco at one time used four complete rack mounted stations, consisting of the TR-4310, R4245, L-77 and MN-4438. The L-77 and the MN-4438 were built on the lines of the L-7 and the MN-2700 with a face lift to match the TR-4310 and R-4245.

In the year 1981, it was decided to enter the home satellite receiver market. This meant a completely new product, which means engineering time, drawings, PCB layouts, ordering parts, market analysis, marketing forecasts and advertising brochures, all of which take time. It is usually two years or more before all of the pieces fit together and a product is actually on the shipping dock. The ESR-24 design and production set new standards, as it was in shipping within eight months. Design of the ESR-24 began in May, the first prototype unit was shown at the Omaha, Nebraska home satellite show in August, and the first units were shipped in November of 1981. The ESR-24 was the first cosmetically appealing, professionally built consumer receiver. The competition units were either built in a back room or a garage. It was designed especially for the home dish owner. It soon became a leader in a very new and exciting market.

The ESR-24 brought new fame to the company, so instead of offering the design to other manufacturers, the company was actually approached by other manufacturers to produce receivers under their name. The OEM accounts included, Channel Master, Winegard, Connifer and National Microtech. In July of 1983, the upper level of a building in Springboro Pike was leased to the company. The office staff, Sales staff and Engineering Department were moved to this new address to become the Corporate Office. This provided the much needed room for all departments, which were expanding rapidly. The second phase of the Franklin plant became a reality in 1984. An addition of 50,000 square feet was added, which gave an overall building size of 92,500 square feet. This addition provided the much needed room to move the Engineering department into the same building with the Production department as well as providing more area for production lines. The PCB Fabrication department now occupied 11,000 square feet of the building. Its waste water treatment plant could treat 80 gallons a minute, removing all heavy metals, and automatically adjust the pH balance properly before being released.

The postponed, but eventual decision was made to cease production of amateur radio equipment, as the market had all but disappeared, there was a lack of FCC deregulation, the foreign competition was increasing more and more and the dollar was strong. The home satellite receiver market was also a very young, but promising market which required the company's full attention.

The ESR-240 receiver replaced the ESR-24 in November of 1983. The receiver was much like the ESR-24, but it had infrared remote control, a built in polarity circuit to control the polarotor and other improvements. The ESR-224 receiver was introduced as a low end receiver and was replaced with the ESR-324 in January of 2984. The ESR-24 remains as the most popular low end receiver to date for the company. The ESR-240A followed the ESR-240 in October of 1984 and was produced until April 1985.

A 10 foot non-mesh dish was designed and packaged as UPS shippable. The dish was also packaged with the ESR-324 receiver and APS-24 positioner and marketed by a Curtis-Mathis Home Entertainment Centre. The APS-24 antenna positioner was designed as a companion to the satellite receivers and was well accepted by the market. It was replaced by the APS-24A in March 1984 which was produced until November 1986 when it was replaced by the APS-24B. The APS-24B is currently in production. The ESR-2220 was produced for commercial installations such as small cable companies. Its design was based on the ESR-24 with changes making it suitable for commercial applications. It, like all commercial units, is supplied in a 19 inch rack cabinet for easy mounting. The ESR-2240 receiver and the VM-2410 video modulator were produced in March 1984 for the commercial market replacing the ESR-2220. The ESR-1240 is a redesign of the ESR-324 block receiver for 19 inch rack mounting. Both the ESR-2240 and ESR-1240 receivers together with the VM-2410 video modulator are current production units.

The year 1985 was a very exciting year for the company. In November, INC magazine recognized the R L Drake Co as one of the fastest growing private companies of the country. The country was ranked 380 out of 500 companies. The ESR-424 receiver and the APS-424 antenna positioner were also introduced in 1985. The receiver was available in two models, single conversion and block. Both units were microprocessor based, which was a new design concept for the Engineering department. These were also used in the Black Widow System, which was a complete satellite system including the dish, cables, etc.

To be Continued

The RL Drake Company: 45 Years Young (1988)

BILL FROST WD8DFP. SUPPLIED BY JOHN WEIR VK3ZRV

(CONTINUED FROM JANUARY ISSUE)

THE COMPANY CONTINUED TO produce satellite equipment for other manufacturers under their names. Receivers at this time were being shipped at a rate in excess of 10,000 units per month. A peak occurred when 19,000-plus units were shipped in one month.

The European home satellite market was just beginning, with only a couple of satellites reaching Europe. This market beckoned for a well engineered, quality product. The call was answered with the ESR-424E, APS-424E, ESR-324E and the APS-24E. These units were well established in the USA and, with a few minor changes, to meet the European requirements, were soon in much demand by overseas distributors. The 424 series units were updated and improved in 1986 and became the 524 series.

Single conversion was losing out to the block type units and were dropped as an alternative model. The ESR-524 receiver was the top-line receiver until the announcement of the ESR-924i. This imported receiver was introduced in 1986 as the company's first integrated receiver. It housed the receiver, antenna positioner and included stereo sound. On-screen graphics were added later to the ESR-924i to make it even more popular. The ESR-324B was given new life with a redesign, and the announcement was made on the release of the ESR-324S which included stereo, and the ESR-324i, which included stereo and the antenna positioner. Both units were met with great acceptance by the marketplace. These units are still a part of the company's product line.

In January 1987, and again in January 1988, the company was named by the Greater Dayton 100, as being among the top 100 largest, closely held companies in the Dayton area, based on product sales and employees. In September 1987, the Service department received a plaque and honours for being the top service department in the TVRO industry, and for having a quick and speedy parts department. The honours were received from the Electronic Technician Association Inc.

The ESR-2400 was introduced in 1987 as the company's first IRD (Integrated Receiver Decoder) receiver. The unit contains stereo audio, antenna positioner (pot or pulse type), C band or Ku band compatibility, on-screen graphics, infrared remote control, and the video cypher II (tm) decoder model. The ESR-2400 is the ultimate receiver and an example of the R L Drake Co engineering department's excellent expertise. The ESR-2024 was later introduced as a little brother to the ESR-2400. It had a few less bells and whistles, but it still retained the same high quality. These two units are the company's top guns for today; however a relentless competitor expects to take over as number one in the industry. The R L Drake Co and its employees do not intend to let that happen.

An R L Drake Co "Made in America", product is beyond ultimate!

Compiled and written by Bill Frost (WB8DFP) Service Department Manager R L Drake Co.

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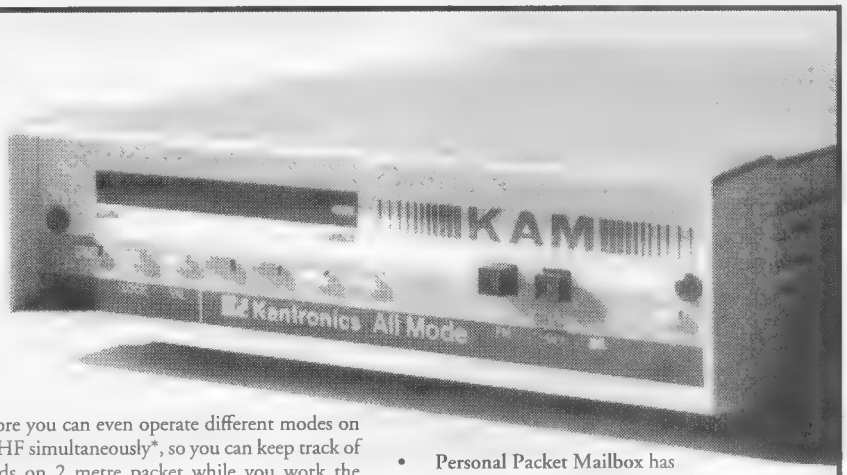

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